Migratory Landbird Conservation on the Tahoe National Forest

Under the National Forest Management Act (NFMA), the Forest Service is directed to "provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives." (P.L. 94-588, Sec 6 (g) (3) (B)). The January 2000 USDA Forest Service (FS) Landbird Conservation Strategic Plan, followed by Executive Order 13186 in 2001, in addition to the Partners in Flight (PIF) specific habitat Conservation Plans for birds and the January 2004 PIF North American Landbird Conservation Plan all reference goals and objectives for integrating bird conservation into forest management and planning.

In late 2008, a *Memorandum of Understanding between the USDA Forest Service and the US Fish and Wildlife Service to Promote the Conservation of Migratory Birds* was signed. In 2016 the USDA Forest Service and the US Fish and Wildlife Service agreed to an extension of the MBTA MOU and currently they are working on an additional extension. The intent of the MOU is to strengthen migratory bird conservation through enhanced collaboration and cooperation between the Forest Service and the Fish and Wildlife Service as well as other federal, state, tribal and local governments. Within the National Forests, conservation of migratory birds focuses on providing a diversity of habitat conditions at multiple spatial scales and ensuring that bird conservation is addressed when planning for land management activities.

The Tahoe National Forest is proposing to manage lands on the Yuba River Ranger District located in the North Yuba, within Sierra County, CA. Proposed management is intended to implement direction contained within the Tahoe National Forest Land and Resource Management Plan (LRMP, USFS 1990). Opportunities to promote conservation of migratory birds and their habitats in the project area were considered during development and design of the Yuba project (MOU Section C: items 1 and 11 and Section D: items 1, 3, and 4).

The Fish and Wildlife Service Birds of Conservation Concern (USFWS 2008) for the Sierra Nevada lists the following for BCR 15 (Sierra Nevada), within which the Yuba Project area lies: bald eagle, peregrine falcon, flammulated owl, spotted owl, black swift, calliope hummingbird, Lewis's woodpecker, Williamson's sapsucker, olive-sided flycatcher, willow flycatcher and Cassin's finch (Table 1).

Table 1. Fish and Wildlife Service Birds of Conservation Concern listed for the Sierra Nevada (BCR 15) (USFWS 2008).

Species	Potential within Yuba project area	Habitat components	Nest location	Potential risks or causes of population trend*	Potential Effects from Management/Mitigation
Bald Eagle	Low--no suitable breeding habitat;	Reservoirs, Lakes, and large Rivers	Large Trees within one mile of	(not identified)	No

	small headwater drainages to N. Yuba provide low quality foraging		foraging bodies of water; most nests at Reservoirs		
Peregrine falcon	Low—no suitable breeding habitat		Cliffs	(not identified)	No
Flammulated owl	Low-- preferred habitats of black oak are not present; may used mixed conifer habitats	Favors open forests of black oak mixed with conifers. Nests in cavities; almost completely insectivorous.	In snags; secondary cavity nester	Needs study; potentially loss of old snags with large woodpecker holes; general decline of black oak populations; poor production of large insects due to drought	Yes. Project proposed to remove hazardous snags only (as determined by Region 5 guidelines). All other snags would be retained throughout landscape. Management Requirements that protect habitat include: design treatments to retain six of the largest snags per acre; locate landings to avoid removing large trees, large snags and large down logs.
Spotted owl	Yes, known territories	Prefers dense, multilayered old-growth forests on shady slopes or canyon bottoms. Seems to be most abundant below the red fir zone	Snags and old stick nests in large trees	Habitat change due to logging is major threat. Loss of old-growth forest and fragmentation of mature forests	Yes. Surveys conducted throughout project identified nests/roost sites with 300-acre Protected Activity Centers established where no mechanical treatments would occur. Unit prescriptions designed to accelerate development of late successional forests, retain largest trees and all trees > 30” dbh; Management

					Requirements that reduce project effects include: Limited Operating seasons with no activities occurring within 0.25 mile of nests/roosts during breeding season; prior to underburning hand treat within 500' of nest trees to protect important elements of owl habitat; locate landings to avoid removing large trees, large snags, and large downed logs; where available, retain coarse woody debris as identified in the silvicultural prescription for the Unit; recruit and retain cull logs and fall and leave hazardous snags up to the levels prescribed and emphasize the largest sizes first to meet these conditions; retain as much existing coarse woody debris as possible during underburn operations; design treatments to retain six of the largest snags per acre; incorporation of RCA guidelines to protect riparian areas, retain snags.
Black swift	Within species' range; sheer, well shaded	Sheer, well shaded cliffs,	often beside or behind waterfalls	Needs study; potentially a reduction in wind-borne insects in	Key habitat elements will not be affected

	cliffs are not present.			lower elevations due to agricultural development and pesticide use.	
Calliope hummingbird	Yes—project is within range and habitat present	Open habitats with scattered trees and shrubs; hardwoods, douglas fir, mixed conifer, lodgepole pine, aspen, wet meadow	Nesting may be in fairly dense forest.	Potentially displaced by Anna's hummingbird	Aspen and meadow enhancement proposals will increase aspen habitat and foraging opportunities. Riparian Conservation Area (RCA) guidelines limit mechanized equipment disturbance and protect riparian and meadow habitats.
Lewis's woodpecker	Low—Project is mostly above elevational range of preferred habitats.	Lowland open foothill oak woodland (uncommon in Sierra proper).	Highly dependent on acorns in winter; feeds extensively on flying insects;	Decreases in acorn production; loss of snags for lookout perches; attrition of large oaks for nesting; Usurpation of nest holes by Starlings	Project is above elevational range; no oak woodland present.
Williamson's sapsucker	Project contains forested habitats	Open forests; favored trees are lodgepole pines, white pines, mountain hemlocks, Jeffrey pines	Snags	Loss of snags; Potentially use of pesticides	Project proposed to remove only hazardous snags (as determined by Region 5 guidelines). All other snags would be retained throughout landscape. Management Requirements that protect habitat include: design treatments to retain six of the largest snags per acre; locate landings to avoid removing large trees, large snags.
Olive-sided	Yes,	Mixed conifer	Very tall	Deforestation	Aspen and meadow

flycatcher	project is within elevational range; breeding habitat present	and hardwood-conifer, douglas-fir, red fir, lodgepole pine	trees with dead perches at very top in dense forests or more open woodlands.	in winter range; Potentially loss of old growth forests and snags on breeding range; Potentially use of pesticides	enhancement proposals will increase habitat and foraging opportunities. All trees > 30" dbh are retained; silvicultural prescriptions designed to retain and increase occurrence of large trees.
Willow flycatcher	Riparian shrubs present in meadows. Suitable meadows have been surveyed every 4 years and no nesting territories have been found.	Riparian shrubs, especially willows;	Shrubby willow clumps, especially wet montane meadows	Browsing by livestock in montane meadows	Projects meadow restoration proposals will reduce conifer encroachment and raise water tables, increasing wet meadow habitat. Road and drainage improvements will maintain and restore hydrological function in meadows. Riparian Conservation Area (RCA) guidelines limit mechanized equipment disturbance and protect riparian and meadow habitats.
Cassin's finch	Yes, Preferred habitats are present within project area.	Open red fir and lodgepole pine	Nesting at lower elevations is scarce.	Likely declining in BBS pop trend in Sierra. Heavy nest predation by Clark's Nutcrackers. Most forestry practices may not be overly detrimental.	Meadow and aspen enhancement proposals would remove encroaching conifers and increase the quantity of open forested edge habitat within meadow edges.
*Potential risks as identified in: Siegel, R.B. and D.F. DeSante. 1999. Version 1.0. The draft avian conservation plan for the Sierra Nevada Bioregion: conservation priorities and strategies for safeguarding Sierra bird populations. Institute for Bird Populations report to California Partners in Flight. http://www.prbo.org/calpif/plans.html.					

The Yuba project area, does not contain suitable breeding habitat for the bald eagle, Peregrine falcon, or the black swift, and they are not likely to be present within the project. There are no hardwood oak habitats in the project area to support the Lewis' woodpecker.

Suitable meadow habitat for the willow flycatcher have been surveyed to protocol for this species every 4 years since 2001, and no breeding territories have been found to occur within the project area. Meadow and aspen enhancement proposals that remove encroaching conifers into these habitats will release water availability and raise water tables, which would increase wet meadow habitat that could better support willow flycatcher, the calliope hummingbird and olive-sided flycatcher. These proposals would also improve open forest edge habitats for Cassin's finch.

Spotted owl surveys have been conducted following Region 5 protocol, and all territories have 300-acre Protected Activity Centers surrounding the nests and roosts, where no mechanical treatments would occur. Limited Operating Periods, restrict activities from March 1 through August 15 to protect nesting and breeding spotted owls. Habitat components such as snags, that are important to spotted owls, flammulated owls, Lewis' woodpecker, and Williamson's sapsucker would be retained throughout the project area where they do not present a public safety hazard (along roads, powerlines, or within units). The proposal to remove hazardous snags covers an estimated 408 acres of 15,250 acres, which represents only 3% of the project area. Underburning within 3,938 acres (23% of the project area) would reintroduce fire as a natural process that would recruit new snags into the project area and increase this habitat component. Only hazardous snags (as determined by Region 5 guidelines) would be removed. All other snags would be retained throughout landscape. The Project Management Requirements reduce the potential for loss of snags as follows: (1) design treatments to retain six of the largest snags per acre; and (2) locate landings to avoid removing large trees, large snags.

The project actions of generally thinning understory trees and a proportion of mid-story trees are intended to improve growth of the larger trees within units and accelerate the development of mid-successional forests into late-successional forests. This would increase the quantity and quality of late-successional forests that are used by spotted owls. Increasing the occurrence of large threes within the project area would eventually increase the occurrence of large snags used by spotted owls, flammulated owls, Lewis' woodpecker, and Williamson's sapsucker and improve habitat quality.

The Yuba Project Management Requirements appear in their entirety in the Draft Environmental Assessment for the Yuba Project. The summary below highlights those that reduce effects to migratory birds and their habitats:

> As site specific conditions warrant, line (at the dripline), rake duff and bark sluff away from the base, or implement other protective measures to reduce the risk of mortality to large > 29" dbh conifers prior to prescribed burning
>
> Avoid piling within the dripline of large trees, snags, and large downed logs
>
> For all treatments, avoid damaging and do not cut or remove aspen or cottonwood

Within aspen stands, avoid prescribed burning where heavy fuels are present.

Do not pile or burn piles within aspen stands, unless otherwise coordinated with the wildlife biologist.

Utilize whole tree yarding to minimize slash within aspen stands when using ground based equipment

Distribution line and roadside hazard trees will be removed in accordance with Forest Health Protection (Report # RO-12-01) Hazard Tree Guidelines for Forest Service Facilities and Roads in the Pacific Southwest Region.

To protect the California spotted owl, Limit the Operating Period (LOP) so that activities do not occur from March 1 through August 15 (unless surveys determine that this is not necessary) in the following units: 10, 17, 16, E, D, PG&E power line within Sections 4, 9

All hand and mechanical treatments will be implemented in accordance with a site specific silvicultural prescription. Silvicultural prescriptions will address the retention and recruitment of large snags, downed logs, coarse woody debris, and non-native invasive weeds.

Prior to underburning in Unit D, either construct hand line, or hand treat within 500' of the nest tree or activity center through tree pruning and cutting small trees (less than 6" dbh), as needed to protect important elements of owl habitat.

To protect the northern goshawk, Limit the Operating Period so that activities do not occur from February 15 through September 15 (unless surveys determine that this is not necessary) in the following units: 43, western half of 102, PG&E powerline with Section 5.

To protect willow flycatcher and great gray owl--Limit the Operating Period so that activities do not occur from February 15 through August 15 (unless surveys determine that this is not necessary) within the following meadows: Bear Trap, Church, Freeman. Prior to implementing projects in these meadows, coordinate the need to implement the L.O.P. and the specific area covered by the L.O.P. within the meadow where the L.O.P. will apply.

To protect raptor nesting, limit the operating season so that activities do not occur March 1 through August 15 within Units 40 and 41. (Note: nest tree is located outside units, and within 0.25 miles.)

Locate landings to avoid removing large trees, large snags, and large downed logs.

Design treatments to retain six of the largest snags per acre. (Standard and Guideline No. 11).

Coordinate all trees marked for removal or girdling within meadows and meadow edges with the wildlife biologist. Focus on lodgepole pine tree removal within the meadow, and thinning within the meadow edge to retain wildlife habitat within the meadow edge. Retain legacy trees and those showing signs of wildlife use (i.e. nests, cavities), and valuable wildlife characteristics (whorled or broken tops, evidence of fungal decay or heart rot). All trees greater than 20" dbh shall be reviewed by a wildlife biologist prior to removal.

Riparian Conservation Areas (RCA):

Establish Riparian Conservation Areas (RCAs) for all streamcourses, as specified below. Ensure Riparian Conservation Objectives (RCOs) are met within RCAs by adhering to the Riparian Conservation Area (RCA) Guidelines established in BMP 1.8. These guidelines specify the types of activities that can be conducted within RCAs and mitigation measures to minimize impacts to streamcourses and riparian ecosystems. RCA widths are as follows:

Stream Type	**Width of the riparian Conservation Area**
Perennial Streams	300 feet each side, measured from bank-full edge
Seasonal Flowing Streams	150 feet each side, measured from bank-full edge
Streams in Inner Gorge	Top of inner gorge
Meadows, lakes, and springs	300 feet from edge of feature or riparian vegetation, whichever is greater

Limit ground based equipment to slopes less than 20 percent within all RCAs. Ground-based equipment may enter the RCA to retrieve tree bundles but is limited to 1-2 passes over the same piece of ground (and must be documented on harvest cards).

No new landings or roads will be located within RCAs. Consult with hydrologist or aquatic biologist before using an existing skid trail, landing, or road located within an RCA.

Riparian Buffers:

Outside of Aspen and Meadow Restoration Units: Establish a 100-foot "riparian buffer" zone along each side of perennial streams and special aquatic features, 50-foot "riparian buffer" along each side of intermittent streams and establish a 30-foot "riparian buffer" zone along each side of ephemeral streams. These zones provide for shade and coarse large woody debris (CWD) to the stream channel and adjacent land.

Within Aspen and Meadow Restoration Units: Riparian Buffers will be flagged on the ground in coordination with an aquatic biologist, hydrologist, and soil scientist to:
(1) Maintain adequate shade to the creek to minimize adverse effects to water temperatures required for local species;
(2) Minimize effects to riparian vegetation,
(3) Maintain streambank stability and minimize risk of sediment entry into aquatic systems,

(4) Minimize impacts to habitat for aquatic- and riparian-dependent species (S&G 92),

Unless otherwise agreed to by an aquatic biologist and hydrologist, *no vegetation treatment or ground-disturbing activities will occur within Riparian Buffers. Directionally fell trees away from the riparian buffer.

Minimize the spread of fire into riparian vegetation during prescribed fire activities. No direct ignition will occur within the perennial and intermittent "riparian buffer" and special aquatic features, unless otherwise agreed to by a hydrologist, soil scientist, and aquatic biologist. Fire may back into the perennial and intermittent "riparian buffer". Direct ignition may occur within the 30-foot ephemeral "riparian buffer".

All pile burning must be outside of the inner riparian buffer unless otherwise coordinated with an aquatic biologist.

Likely impacts to habitats and select migratory bird populations resulting from the Yuba project have been assessed in detail within the project Management Indicator Species report, and impacts to select Threatened, Endangered, and Sensitive birds and their habitats have been analyzed in detail in the project Biological Evaluation.

Logging and prescribed burning could reduce vegetative cover that provides food, shelter, and nesting habitat for migratory birds that utilize grasslands, herbaceous, shub, and forested habitats. Potential impacts to migratory species would be minimized through the adherence of LRMP Standards and Guidelines for Riparian Conservation Area buffers, limiting ground disturbance, protecting riparian vegetation, retention of very large trees (> 30 inch dbh) and the majority of trees greater than 24" dbh, promoting late successional forest development, and maintaining and enhancing vegetation species diversity and composition. With the exception of removing a small proportion of snags that create a public safety hazard, this project would not reduce the occurrence of snags and downed logs. Cull logs would be recruited within units during logging operations, and prescribed fire reintroduce fire as a dynamic process that would recruit new snags into burned areas.

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